Exhibit A:
Response to Comments Submitted by RW Harden and Associates (RHW&A)
Prepared by: GMA 12 Consultants

We have addressed the four comments in the following sequence: Comment #1, Comment #4, Comment #3, and then Comment #2.

Comment #1. Date Correction. The first sentence of the Report's executive summary (page ES-3) and the first sentence of the second paragraph of the introduction (page 1) incorrectly state that Post Oak Savanah Groundwater Conservation District (POSGCD) and GMA-12 obtained the aquifer pumping test data from Vista Ridge production wells in April 2020. While pumping test data for all production wells was released in April 2020, the Vista Ridge project company provided pumping test data associated with 15 of the 18 production wells to INTERA in January 2018 for the purposes of GAM modification/verification.

Response to Comment #1. In the report, the use of aquifer pumping test data refers to the data collected during an aquifer test such as pumping rates and measured water levels. We assumed that was understood by the reader. But to make sure it is clear, we have revised the introduction to the report as described below. Given that aquifer test data includes the measured water levels, our response to comment #1 includes the following points:

1. The transmission of the data to INTERA in January 2018 included a fully executed Non-Disclosure Agreement (NDA) between INTERA and Garney that explicitly prohibited INTERA sharing the aquifer test data to third parties such as POSGCD without prior written permission.
2. On May 27, 2018, INTERA wrote to RHWH&A for permission to include a tabulation of the aquifer test result from 11 Vista Ridge wells that includes well location, duration and average pumping rate of aquifer tests, and calculated transmissivity. This email explicitly stated that the request is not related to POSGCD in any manner and that our request should not be mentioned to Gary Westbrook.
3. On May 30, 2018, RWH&A sent an email to INTERA (Attachment A) that included an attachment that provided INTERA permission to include the tabulated well information shown in Attachment A along with well screen intervals in a TWDB report, which was included in Appendix E of the TWDB GAM report (Young and others, 2018).
4. After May 30, 2018 INTERA shared the information in Appendix E with POSGCD and other GMA 12 consultants but not before.
5. In 2019 and 2020, INTERA worked with POSGCD to review a Blue Water request to modify their permit for production from the Vista Ridge well field. As part of the process of reviewing the permit, Mr. Gary Westbrook requested the Vista Ridge aquifer pumping test data from Blue Water. As part of the review of the Blue Water Permit, INTERA learned that the updated GAM did not provide accurate simulation of the drawdowns measured during the Vista Ridge pumping tests in the Simsboro Aquifer. In 2020, INTERA asked POSGCD to consider updating the transmissivity properties of the Simsboro Aquifer in the vicinity of the Vista Ridge production wells in coordination with the other GMA 12 hydrogeologists.
6. To more accurately represent the narrative above, INTERA is changing paragraph 2 in the Introduction to:

" In April 2020, the POSGCD and Groundwater Management Area (GMA) 12 obtained the aquifer pumping test data from 18 of the Vista Ridge production wells, 9 of which screened sands in the Carrizo Aquifer and 9 of which screened sands in the Simsboro Aquifer. The data were collected as part of POSGCD's review of an operating permit for Vista Ridge. The aquifer test data included the measured pumping rates and water levels required to calculate transmissivity values. Soon after receipt of the data, POSGCD shared the aquifer test data with other GMA 12 districts. POSGCD and INTERA compared measured drawdowns and the calculated transmissivity values obtained from these aquifer pumping tests to the values obtained by simulating the aquifer tests using the Groundwater Availability Model for the Central Portion of the Sparta/Queen City/ Carrizo-Wilcox aquifers (Young and others, 2018) (henceforth called the GAM). Whereas the GAM provided reasonable matches for the pumping tests in the Carrizo Aquifer, the GAM did not provide reasonable matches for the pumping tests in the Simsboro Aquifer.

On July 24, 2020, GMA 12 members unanimously voted to have the GMA 12 consultants revise the GAM so that it would more accurately simulate the aquifer test drawdown response measured in nine Vista Ridge Simsboro wells."

Comment #4. Table Value Corrections and Potential Model Corrections. Several aquifer test transmissivity values appear to be misreported in Table 1 of Intera's October 2020 modification report. The table below list RWH&A's reported results in comparison to Intera's reported values.

Table 1. Transmissivity Values of Simsboro Vista Ridge Well Field

Well ID	RWH&A Reported Results (ft^2/day)	Intera's Reported Values (ft^2/day)	Difference (ft^2/day)
PW-9	10,963	10,928	35
PW-10	16,979	13,906	3,073
PW-11	15,642	17,335	-1,693
PW-12	16,885	19,785	-2,900
PW-13	15,241	14,559	682
PW-14	15,160	14,664	496
PW-15	15,374	15,215	159
PW-16	13,369	10,736	2,633
PW-17	17,112	19,629	-2,517

Response to Comment #4. In response to the comment #4, INTERA has modified the report to make it clear that INTERA calculated the transmissivity using the same process that was used by INTERA to calculate transmissivity values from over 100 aquifer pumping tests cited in the GAM report. INTERA has modified the report to explain the basis for the calculated transmissivity values in the Table 1. The report modification includes the following statements.

"The transmissivity values in Table 1 were calculated using the CJSL method and the slope of a straight line fitted through the drawdown data from 4 hours to 36 hours. The linear fit was performed using linear regression and the logarithm of time. The process for performing the linear regression was the same as the process used by INTERA to calculate transmissivity values from over 100 aquifer pumping tests in the GAM report (Young and others, 2018). Table 1 provides CJSL-based transmissivity values calculated using a methodology that has definable, objective criteria for fitting a straight-line through the time-drawdown and is applied consistently among the data sets.

INTERA disagrees with the RWH&A's assertion that "Several Aquifer test transmissivity values appear to be misreported in Table 1 of INTERA's October 2020 modification report. Our response to comment #4 also includes the following points:

1. INTERA is unaware of any publicly available document that provides the RWH&A 's transmissivity values listed and documents the methodology used to calculate the transmissivity values developed by RHW&A. INTERA does not believe such a document exists because if it did, INTERA would not have needed to sign an NDA with Garney as discussed above. We are unclear of your meaning of the use of the word "reported".

2. The spreadsheets that RWH&A provided to INTERA in January 2018 included some of the transmissivity values provided by RWH&A, but not all. Based our review of the RHW&A spreadsheets it appears that the transmissivity values were calculated using the CJSL method based on straight lines that were fitted to the data based on visual inspections. INTERA is not necessarily against visual fitting the data in some instances such as when there are known problems with the pumping rate or known geological anomalies, but we believe that for most of the wells, the straight-lines (fits) generated by INTERA are superior to those generated by RWH&A. Based on our analysis, it appears that several of RWH&A straight lines were visually fitted through the data with an eye toward generating similar transmissivity values, thus limiting the understanding of the spatial variability in the transmissivity field.

3. The difference in RWH&A and INTERA transmissivity values for each well appears is attributed solely to the differences in the slopes associated with the straight-line fitted to the time-drawdown data. The method used by INTERA is significantly more objective and reproducible than the approach that seemed to be used by RWH&A. The method INTERA used to calculate the transmissivity values is consistent with the approach used by INTERA to generate transmissivity values from over 100 aquifer pumping tests in the GAM report.

4. An important aspect regarding the transmissivity values in Table 1 is that the averages of the INTERA values and RWH&A values are 15,192 ft2/day and 15,195 ft2/day, respectively. The difference between the two set of transmissivity values is 4 ft2/day, which is less than 0.03%. The primary difference that between the two sets of transmissivity values is that INTERA's values express a larger range of variability in transmissivity than does RHW&A's values.

Comment #2 High Simsboro (Layer 9) Transmissivity. The recently modified and proposed model parameters assigned to areas adjacent to the Vista Ridge well field significantly exceed measured transmissivity values calculated within the Vista Ridge well field. Figure 1 below is a contour plot of the modified Simsboro transmissivity values from the GAM in the GMA-12 region. As shown, there are model nodes/cells adjacent to (east of) the Vista Ridge well field exhibiting transmissivities greater than 24,800 feet square per day (ft_2/day) (184,800 gallons per day per foot [gal/day/ft]). The pumping test data provided by Vista Ridge revealed that the greatest transmissivity value derived from short-term (36-hour) Simsboro aquifer testing is approximately 18,300 ft_2/day (137,000 gal/day/ft), while the longer-term (28-day) testing of PW-13 indicates a transmissivity value of approximately 15,200 ft_2/day (114,000 gal/day/ft).

Response to Comment #2. INTERA disagrees with RHW&A's assessment that the modified Simsboro transmissivity values are too high and significantly exceed the measured transmissivity values. In response to RHW&A's comments, we offer the following discussion points:

1. INTERA would like to clarify that transmissivity values are not a direct measurement but rather are calculated. Hydrogeologists measure water levels and pumping rates but hydrogeologists calculate transmissivity values. For the purpose of proper interpretation of the Vista Ridge and other aquifer tests performed in GMA 12 , it is important to understand one can calculate multiple transmissivity values from a 36-hour pumping test as is demonstrated in the analysis presented in the GAM report (Young and others, 2018).

2. For the 23-day aquifer test at PW-13, the calculated average transmissivity is 15,871 ft2/day. Table 2 in the report (Young and others, 2020) shows that the simulation of the 23-day PW-13 aquifer pumping test using the updated GAM lead to a Cooper-Jacob Straight Line (CJSL) transmissivity of 15,756 ft2/day, which is about 1 percent lower than the calculated values from the field data.

3. The highest value of Simsboro transmissivity assigned to a grid cell in the updated GAM in Burleson County is 24,800 ft2/day. There are only two grid cells in Burleson County that have transmissivity values above 23,000 ft2/day. Out of the nine production wells, two transmissivity values are greater than 19,500 ft2/day. The highest transmissivity value of 24,800 ft2/day is less than 30% higher than 19,500 ft2/day and the second highest transmissivity value of 23,500 is less than 20% higher than 19,500 ft2/day. For the 36-hour pumping tests with a transmissivity of 19,500 ft2/day and storativity value of 1e-4 (based on the GAM), the radius-of-influence for these two aquifer tests is about 4.9 miles (Dragoni, 1998; Bear, 1979), which represents an area-of-influence of 74 square miles. Based on our understanding of the site geology, geophysical logs (Ewing, 2020, Ewing 2018, Ewing and Young, 2018) and on the analysis of the Vista Ridge aquifer test data such as shown in Attachment B, variability in transmissivity of 30% is highly likely based on the our analysis of sand thickness maps and the depositional environment.

4. In order to illustrate that the spatial variability in the Simsboro transmissivity field is underestimated by using only the nine transmissivity values calculated from the nine aquifer

tests, INTERA has generated Attachment B. Attachment B shows results from applying the CJSL method over time periods of greater than 5 hours to the pumping tests for PW-11 and PW-16, using the same method used to analysis the 36-hour pumping tests in the GAM report. The analysis in Appendix B shows:

- For PW-11, the drawdown data was divided into four periods of between 5 and 19 hours for which CJSL transmissivity values were calculated. These four transmissivity values are: 12,871 ft2/day, 15,838 ft2/day, 28,075 ft2/day, and 4,900 ft2/day.
- For PW-16, the drawdown data was divided into four periods of between 5 and 13 hours for which CJSL transmissivity values were calculated. These four transmissivity values are: 22,500 ft2/day, 11,742 ft2/day, 6,044, and 4,900 ft2/day.

By parsing the aquifer test data into time periods of 5 hours and greater, we are able to find evidence smaller scale variability in the transmissivity field than is possible by looking only at the transmissivity values calculated over 36-hour periods. The analysis of calculating transmissivity values over time scale less than 36 hours produce a range of transmissivity values for both wells range from less 60% to more than 50% of their reported values in Table 1.

Comment #2. Simsboro (Layer 9) Transmissivity Artifact. There appears to be a modeling/interpolation artifact in the modified Simsboro transmissivity field encompassing the Vista Ridge well field area. As shown in Figure 1, there is a distinct, box-shaped transition zone between the modified and unmodified cells that is not consistent with the recorded, regional distribution of hydraulic parameters in the Simsboro. For example, the transmissivity of modified model cells near the eastern transition zone ranges from approximately 5,700 to 19,600 ft_2/day, while nearby unmodified model cells are much less transmissive, with maximum assigned values ranging up to about 9,400 ft_2/day. The apparent artifact correlates to the orientation of the pilot point array applied to PEST as shown in Figure 2 of Intera's October 2020 report. This box-shaped transition suggests that the parameter estimation results and the methods by which those values were integrated into the original transmissivity field should be re-analyzed and possibly corrected.

Response to Comment #2. INTERA does not understand the meaning of "recorded, regional distribution of hydraulic parameter in the Simsboro." In our opinion, the distribution of transmissivity values in Burleson is best characterized based on the transmissivity values that can be calculated from the aquifer tests from the downdip portions of the Simsboro in Burleson, Robertson, and Brazos County. Given that meaning, we believe that the modified transmissivity values within the boxed are box are consistent with those transmissivity values.

One important point associated the modified transmissivity values is that they were generated by PEST for a very different set of model calibration criteria than used by PEST to generate the unmodified transmissivity values. Thus, the magnitude and spatial variation in the modified transmissivity values should be different than for the unmodified transmissivity values. The second important point is that along the outermost column or row where the transmissivity values were modified, the average change is less than 25% difference along three out of the four sides. A difference of less than 25% is a relatively small amount given that differences in

transmissivity much larger than 25% occur across a mile distance in many regions of the unmodified transmissivity field such as in Robertson County (Attachment A, Figure 3) and among transmissivities that were calculated among the Vista Ridge Simsboro Aquifer screened wells. A third important observation is that, it appears that a similar box could have been drawn around the high transmissivity values in Robertson County in the unmodified GAM (see Attachment C, Figure 3) to encompass elevated transmissivity values associated with the City of Bryan/College Station well field.

Within the area contained inside the box identified by the RWH&A, the transmissivity values were increased by an average multiplier of 1.7, or 70% with the smallest and greatest changes in the updip (Northwest) and downdip (Southeast) portions of the box, respectively. Unlike up dip portions of the box, where the transition between modified and unmodified transmissivity values are difficult to distinguish , across the down dip portion of the box the transition between unmodified and modified transmissivity values is distinguishable. This boundary is marked by the line A-A' in Figure 4 in Attachment C. The modified transmissivity values are about twice the values of the unmodified transmissivity value. To explain this increase, we have modified Section 3 of the report to include the following discussion.

> "As part of the recalibration of the GAM, several attempts were made to reduce the amount of increase in the Simsboro transmissivity values in the vicinity of line A-A' shown in Attachment C. These investigations showed that notable reductions in transmissivity values in the vicinity of line A - A' adversely affected the match between the calculated transmissivity values from the aquifer pumping test and the GAM simulation. Based on these results, we deduced that the Simsboro transmissivity values in the unmodified GAM and in the vicinity of Line A-A' and down-dip of Line A-A' were likely a result of a combination of too great of an trend of decrease in hydraulic conductivity with depth that was built into the GAM (Young and others, 2018) and a possible underestimation of net sand thickness down dip of Line A-A'.
>
> We did not pursue additional studies to adjust Simsboro transmissivity values down in the vicinity and downdip of Line A-A' for several reasons. One reason is that the additional studies is beyond the scope of GMA 12 directive to modify the GAM by adjusting the hydraulic conductivity values of the Simsboro Aquifer in the vicinity of the Vista Ridge well field. Another reason is that the pursuit of additional studies would likely prevent the completion of the modified GAM for use by GMA 12 for the current planning cycle. In addition, the GMA 12 consultants are unsure if there is sufficient hydrogeological data to properly guide the changes in the Simsboro transmissivity field down dip of Line A-A' at this time.

References

Bear, J., 1979. Hydraulics of Groundwater, McGraw-Hill International Book Company. 567 pages

Dragoni, W., 1998. Some considerations regarding the radius of influence of a pumping well. Hydrogeologie. No., 3 Pag 21-25.

Ewing, T. E., 2018. The Peripheral Graben System in Texas, An Overview. Gulf Coast Association of Geological Societies Transactions, v. 68, p. 179-194.

Ewing, T. E., and S. Young, 2018, The Milano Fault System, Central Texas: Structure and implications for the Simsboro Aquifer: Gulf Coast Association of Geological Societies Transactions, v. 68, p. 179–194.

Ewing, T.E., 2020, Log-based facies analysis and stratigraphy of the Wilcox Group, Central Texas: GeoGulf Transactions, v. 70, p. 107-121.

Young, S., M. Jigmond, T. Jones, and T. Ewing. 2018. Groundwater Availability Model for Central Portion of the Sparta, Queen City, and Carrizo-Wilcox Aquifer, prepared for the TWDB, unnumbered report, September 2018

INTERA, Inc., D. B. Stephens & Associates, and Ground Water Consultants, LLC. 2020. GMA 12 Update to the Groundwater Availability Model for the Central Portion of the Sparta, Queen City, and Carrizo-Wilcox Aquifers: Update to Improve the Representation of the Transmissivity Properties of the Simsboro Aquifer in the Vicinity of the Vista Ridge Well Field, Prepared for the Groundwater Management Area 12. October 2020

Attachment A:

Email from RW Harden Given Permission to INTERA to Share Limited Information on the Aquifer Testing of Vista Ridge Wells in a TWDB Report

RE: request for permission to cite preliminary analysis of Vista Ridge aquifer pumping test results

JB James Bene <james.bene@rwharden.com>
To Steve Young

Reply | Reply All | Forward | ...
Wed 5/30/2018 11:35 AM

You replied to this message on 5/30/2018 11:36 AM.

Intera_Data_Use_Authorization_30May2018.pdf
259 KB

Steve,

Garney has authorized you (Intera) to use the pump test info. Attached is a letter of transmittal that I will forward to Sydney and Gary if you don't have any comments.

James

From: Steve Young [mailto:syoung@intera.com]
Sent: Sunday, May 27, 2018 11:37 AM
To: James Bene <james.bene@rwharden.com>
Subject: request for permission to cite preliminary analysis of Vista Ridge aquifer pumping test results

James:

I am asking for permission (per the requirement of our NDA) to use transmissivity values calculated for eleven aquifer pumping tests in the TWDB report INTERA is preparing the document the development of the updated GAM for the central portion of the Sparta, Queen City, and Carrizo-Wilcox aquifers. The values will be presented along with selected aquifer tests results that were analyzed as part of the
Conceptual report on the analysis the Milano fault zone. the eleven transmissivity values I am interested in using are:

Well	lat	long	duration	pumping (gpm)	trans(ft2/d)
CW-2	30.43564	96.80566	48 Days	1650	9422
CW-3	30.42803	96.80739	36 Hours	2000	2366
CW-5	30.43037	96.82592	36 Hours	1816	3342
CW-7	30.41233	96.83705	28 Days	2075	3743
CW-9	30.42052	96.81123	36 Hours	2000	3075
PW-10	30.41916	96.80507	36 Hours	3000	16979
PW-11	30.41392	96.7928	36 Hours	3100	15642
PW-13	30.44583	96.76865	23.75 Days	3100	18316
PW-15	30.41001	96.78025	36.5 Hours	3503	15374
PW-16	30.40794	96.77606	36 Hours	3110	16369
PW-17	30.41709	96.77139	36 Hours	3110	17112

The transmissivity values will be mark preliminary and we can round up and modify the calculated trans somehow. I do not need to present any
the measured time-drawdown or pumping data from the test. I only need the transmissivity values. I can either say that they were from a written correspondence or verbal. If you need to the can be provide with a caveat they are with plus or minus 10%. These values will help justify the change in K and T values that occurred in the Carrizo and Simsboro.

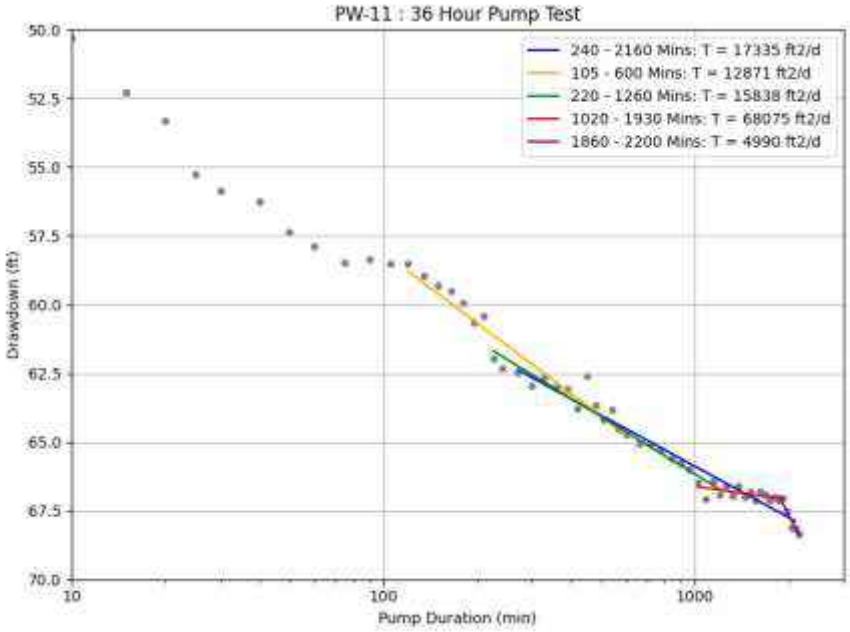
This request is not related to POSGCD in any manner. Gary is unware that I am making this request. Please do not copy or mention this to Gary Westbrook.

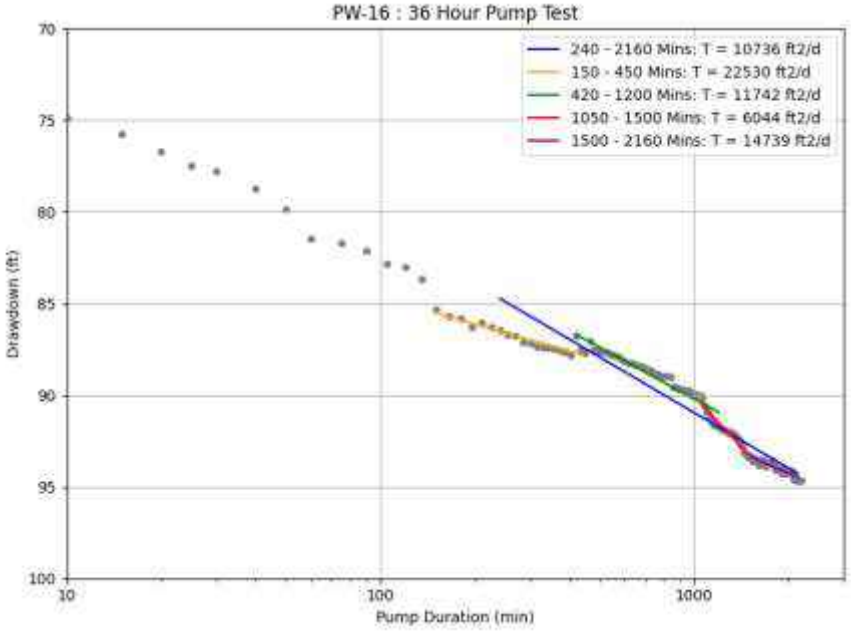
I realized that this may take a few days to process. Please call to discuss ASAP

Steven C Young
Principal Geoscientist/Engineer

Attachment B:

Cooper-Jacob Straight-Line Analysis for Determining Transmissivity Values from the 36-hour Pumping Test Data from PW-11 and PW-16





Attachment C:

Mapped Simsboro Transmissivity Values from the Original GAM and the Updated GAM

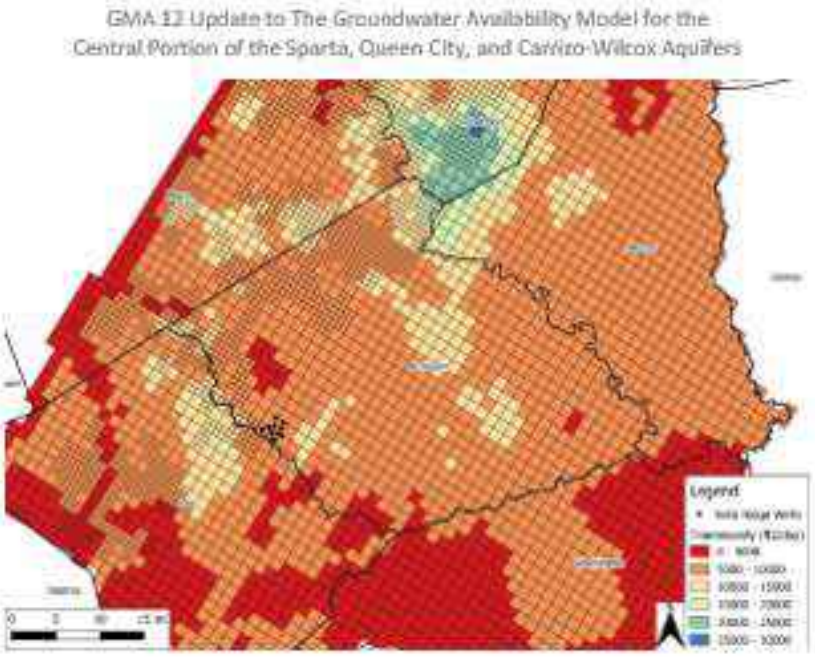


Figure 3 Simsboro Transmissivity Field in the GAM (Young and others, 2018)

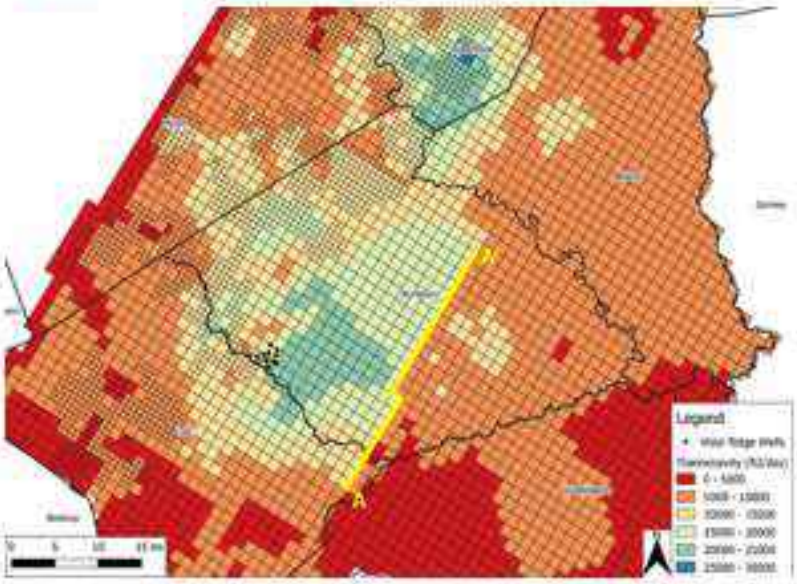


Figure 4 Simsboro Transmissivity Field in the Modified GAM. Line A-A' marks the location between the modified and unmodified Simsboro transmissivity values along in the down dip of the Vista Ridge well field.